IN THE DRAWINGS:

Submitted herewith are replacement sheets for Figs. 1, 2 and 4-12 incorporating revisions to overcome the drawing objection and to conform the drawings to the description in the specification and the original claims. More specifically, Fig. 2 has been revised to insert the legend "Prior Art". Figs. 1, 2 and 4-12 have been revised to correctly depict the position of the polycrystalline silicon gate electrode 6 to conform to the written description in the specification and the original claims.

REMARKS

In the last Office Action, the Examiner objected to the drawings because Fig. 2 is not designated with the legend "Prior Art". The Examiner further objected to the drawings because reference numerals 6 and 9 in Fig. 12 incorrectly label the respective designated elements. Claims 1 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over applicant's prior art disclosure in Fig. 2 ("APD") in view of U.S. Patent No. 6,351,009 to Kocon et al. ("Kocon"). Claims 2-5 were objected to as being dependent upon a rejected base claim, but indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant and applicant's counsel note with appreciation the indication of allowable subject matter concerning claims 2-5. However, for the reasons noted below, applicant respectfully submits that newly added claims 7-12 also patentably distinguish from the prior art of record.

In accordance with the present response, the specification has been suitably revised to correct informalities, provide antecedent basis for the claim language, and bring it into better conformance with U.S. practice. A new abstract which more clearly reflects the invention to which the amended and new claims are directed has been substituted for the original abstract.

Submitted herewith are replacement sheets for Figs. 1, 2 and 4-12 incorporating revisions to overcome the drawing objection and conform the drawings to the description in the specification and to the original claims. More specifically, Fig. 2 has been revised to insert the legend "Prior Art". Figs. 1, 2 and 4-12 have been revised to correctly show the location of the polycrystalline silicon gate electrode 6 to conform to the written description in the specification and to the original claims.

Original independent claim 1 has been amended to incorporate the subject matter of allowable claim 2. Original claims 1 and 3-5 have also been amended in formal respects to improve the wording and bring them into better conformance with U.S. practice. Claims 2 and 6 have been canceled without prejudice or admission. Claims 3 and 5 have been further amended to depend on claim 1 in view of the cancellation and incorporation of claim 2 into claim 1.

By the foregoing amendments, independent claim 6 incorporates the subject matter of allowable claim 2 and, therefore, is allowable over the prior art of record. Amended claims 3-5 depend on and contain all of the limitations of amended independent claim 6 and, therefore, are also allowable over the prior art of record.

New claims 7-12 have been added to provide a fuller scope of coverage. Applicant respectfully submits that the prior art of record does not disclose or suggest the subject matter recited in newly added claims 7-12.

New independent claim 7 is directed to a vertical MOS transistor and requires a semiconductor substrate, an epitaxial growth layer disposed on the semiconductor substrate, a body region disposed on the epitaxial growth layer, a heavily doped body contact region disposed on a part of a surface of the body region, a heavily doped source region disposed on a part of the surface of the body region on which the heavily doped body contact region is not disposed, and a silicon trench extending through the heavily doped source region and the body region and extending into the epitaxial growth layer, the silicon trench having sidewall surfaces and a bottom surface. Claim 7 further requires a gate insulating film disposed on the sidewall and bottom surfaces of the silicon trench, a heavily doped polycrystalline silicon gate disposed in the silicon trench over the gate insulating film and extending below a surface formed by the body region and the heavily doped body contact region, an intermediate insulating film disposed on the heavily doped polycrystalline silicon gate in the silicon trench so as to reach the surface formed by the body region and the heavily doped body contact

region, and an insulator disposed on the sidewalls of the silicon trench and above the heavily doped polycrystalline silicon gate.

Thus new independent claim 7 requires an insulator disposed on the sidewalls of the silicon trench and above the heavily doped polycrystalline silicon gate. No corresponding structural combination is disclosed or suggested by the prior art of record as recognized by the Examiner with respect to the subject matter of allowable claim 2.

Claims 8-12 depend on and contain all of the limitations of new independent claim 7 and, therefore, distinguish from the prior art of record at least in the same manner as claim 7.

In view of the foregoing amendments and discussion, the application is believed to be in allowable form. Accordingly, favorable reconsideration and allowance of the claims are most respectfully requested.

Respectfully submitted,

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MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Mail Stop AMENDMENT, COMMISSIONER FOR PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Debra Buonincontri
Name

Debra Buonincontri
Signature

February 15, 2006
Date